site; but they forget that the animal of a Madrepore is very nearly allied to *Palythoa*—in fact only a *Palythoa* living in very crowded colonies and having a strong coral to protect it instead of a cartilaginous coat more or less strengthened with sand or spicules; and if the *Palythoa* of a Madrepore secretes 22 per cent. of silica in the same state of chemical combination as it is in the spicules of *Hyalonema*, why may not an allied species secrete silica that takes the form of spicules? The question is, I own, a very difficult one: but it is not to be solved by the *ipse dixit* of this or that Professor; it is one that requires careful study.

Unfortunately, some men of great reputation have, without sufficient examination and consideration, committed themselves to a theory, and they do not like to reconsider the question; but the time will come when it will be reconsidered; and if I am proved to be wrong, I shall have great pleasure in adopting their views and freely admit my mistake.

XXVIII.—*On the Habitat of the* Regadera (*Watering-pot*) *or Venus's Flower-basket* (Euplectella aspergillum, *Owen*). By Thomas J. Moore, Free Public Museum, Liverpool.

Dear Dr. Gray,

A few days since I received a note from Mr. S. R. Graves, M.P. for Liverpool, requesting me to call at his office to see some specimens which he thought would interest me. I went immediately, and Mr. Graves showed me two fair specimens of *Euplectella* which, with some others in still better condition, were brought to him by Capt. Robert Morgan, of the ship 'Robin Hood,' which vessel had just arrived in Liverpool from the Philippine Islands.

I fear I somewhat disappointed Mr. Graves when I told him we had already finer specimens in the Museum, from the first lot sold in England. Presently, however, Mr. Graves put in my hand an exceedingly clear and neatly written document by Capt. Morgan, detailing the place and mode of capture of these specimens, and illustrated by a rough sketch. This at once riveted my attention, as I could not call to mind any statement so definite and precise in any of the numerous papers published since the influx of these beautiful objects. I asked Mr. Graves's permission to publish the communication, which permission he kindly gave me, and promised that he would ask Capt. Morgan to call upon me; and I have this day had the pleasure of seeing him.

Capt. Morgan tells me that, after a tedious voyage among the Philippine Islands, he put into Cebú, to ship some sugar, and that he derived much of his information from a friend

(George Mackenzie, Esq.) resident in the neighbourhood, and fond of natural-history pursuits. Capt. Morgan had not actually been out with the natives, but had seen them from his ship engaged in the Regadera-fishing.

Soon after the arrival of specimens of *Euplectella* the island of Cebú was stated to be the place they were brought from. As an explanation of the sudden influx of what was previously known only from a unique specimen, I was told that Cebú had just previously been made a free port, and a large extension of commerce was the result. Instead of this having been the case, I am now informed that the sugar which Cebú largely produces was till lately transported to Manilla, to be there reshipped for Europe. This expense is now saved by the European vessels shipping the sugar direct from Cebú itself, which, after all, had a suitable though neglected harbour of its own; and *hence* the increase of trade with this previously little-known island. That the influx of specimens, though doubtless largely promoted by this increase of direct communication with Europe, is not caused thereby, will be evident on reference to the paper by Herr C. Semper ("On *Euplectella* and its Inhabitants"), translated in the 'Annals' for July 1868, p. 26. In this paper Dr. Semper bears personal testimony to their extreme rarity up to 1864. That communication also contains the nearest approach that I have seen to the habitat given by Capt. Morgan; but at the place indicated by the fishermen of S. Nicolas, in 120 fathoms water, Dr. Semper states he dredged in vain, and concluded that he had been purposely deceived.

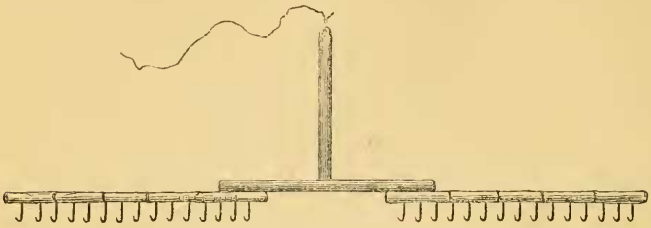
I send herewith Capt. Morgan's paper just as received, and, in conclusion, only add that he told me, in reply to my question why the Regaderas were said to point one way, that when the natives draw their fishing-apparatus in one direction, they catch the specimens, and when they draw it in the opposite direction, they *don't* catch them. I should think the statement that the crustaceans within the Regaderas can travel in and out (by burrowing downwards) is due to the same lively imagination as the previously known statement that *they* are the architects of the abode in which they are found.

Liverpool, Dec. 23, 1868. T. J. Moore.

"The only place where Regaderas are to be found is about three miles from the shore in front of the small village of Talisay, which is about five or six miles south of the town of Cebú, Isle of Cebú, Philippine Islands.

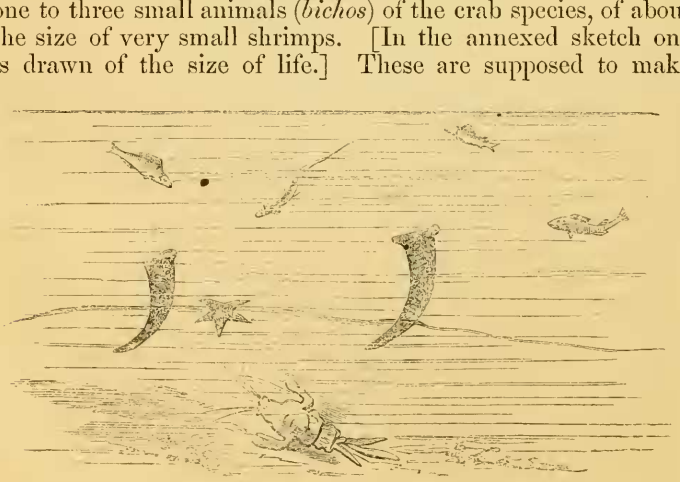
"The mode of catching them is very ingenious, and is as follows:—When the tide is about its full, the natives go out in very small canoes to the bed in which they are found, and

which is about one mile in circumference and from 130 to 135 fathoms deep. The native, when he considers he has come to about the extremity of the bed, then lets drop his fishing-tackle, composed, as in the rough sketch given herewith, of



a piece of iron of the shape of a T, to the two extremities of which are attached two flexible pieces of bamboo armed with hooks. This sinks to the bottom, and the native sits perfectly still in his tiny canoe, which is then gradually drifted by the tide or current over the ground on which are found the Regaderas. So soon as he feels that his trawling-apparatus has caught something, he begins to haul his line gently in, and generally finds two or three Regaderas impaled on the hooks. When taken out of the water, the Regaderas are dirty and yellow; but, after being put in fresh water or exposed to the rain and then dried in the sun, they become perfectly white.

"The bottom of the sea where the Regaderas are found is composed of soft mud and sand. The root of the Regadera is imbedded in this, and the top or broad part always looks, as the natives say, to the setting sun ("*a donde se pone el sol*"). In the Regadera, when fished up, are generally found from one to three small animals (*bichos*) of the crab species, of about the size of very small shrimps. [In the annexed sketch one is drawn of the size of life.] These are supposed to make



these Regaderas, which are at first very small—say about an inch long, and generally expand about a foot in length. These crabs or animals can burrow into the sand out of their pretty home, and reenter it at will. The hooks of course frequently catch Regaderas without bringing them up; and many that have been recovered show signs of having had a new piece of netting put over the part torn by the hook.

"It is said that the first Regadera discovered in Cebú was sold for $50, and that a Dr. Caloo, who took it to Manilla, was there offered $200 for it. For some time after that they continued to be worth $16 each.

"It was only in 1865 that they became abundant, through the present bed being discovered."

XXIX.—*On the* Ehretiaceæ.

By John Miers, F.R.S., F.L.S., &c.

[Continued from p. 112.]

Bourreria.

I have already stated (*ante*, p. 107) that the *Bourreria* of Browne (*Beurreria*, Jacq.), which DeCandolle regarded as a mere section of *Ehretia*, must be regarded as a distinct genus, on account of the several differential characters there mentioned. Its drupaceous fruit encloses four nucules, flattened on their converging angular sides, rounded exteriorly, where they are cleft obliquely into many thin laminiform plates, which are intersected by small divisions into numerous cells filled with fibrous and pulpy matter, thus forming a subspongiose rigid network on the exterior side; its inner portion is osseous, angular, and contains a single seed: this seminiferous cell is somewhat incurved longitudinally round another spurious cell, with which it has a placentary communication through a small spot to which the single seed is attached by its middle: this spurious cell is filled with nourishing tissue, and has a large foramen opening externally on one side of the nucule, either on the right or left side; for the four nuts are geminately arranged in pairs, as in *Rhabdia*, and in each pair, upon their contiguous sides, these foraminal openings face one another, while the opposite sides are plane; and through these channels the nourishing vessels from the placentary column are seen to enter each cell: the seed, which fills the true cell, is cylindrical, somewhat incurved as before mentioned, and attached by its middle to the placentary point; upon the integument on that side a line of descending raphe runs from the hilum to a small basal chalaza. Although Gaertner, by mis-